

Possession of surplus energy is, of course, a requisite for any kind of civilization, for man possesses merely the energy of his own muscles. He must expend all his strength, mental and physical, to obtain the bare necessities of life. A reduction of per capita energy consumption has always in the past led to a decline in civilization and a reversion to a more primitive way of life."

The next quote is another one from Hyman Rickover: "High energy consumption has always been a requisite of political power. The tendency is for political power to be concentrated in an ever smaller number of countries. Ultimately, the nation which controls the largest energy resource will become dominant. That control today is represented by having the necessary dollars to purchase it. Tomorrow it may be indicated by who, in fact, owns the oil fields. If we give thought to the problem of energy resources, we act wisely and in time to conserve what we have and prepare well for necessary future changes. We will ensure this dominant position for our own country."

I would submit that we have done none of this. We have not acted wisely. We have not anticipated today. And it was absolutely inevitable that there would come a day when the supply of energy would be inadequate to meet the demands for energy, which is why it's roughly now 93, \$95 a barrel.

There have been four studies paid for by our government. And much to my chagrin, they have pretty much ignored what all four of these studies have said. One of those was a study done for the Army by the Corps of Engineers.

Now, these were published just September of 2005, just a couple of years ago. There's another quote from him in just a minute. It's really interesting. Jean La Harerre made an assessment of the USGS report, that's the report we were looking at just previously that said we were going to find as much more oil as all the oil that we now knew existed which is recoverable in the world. And this was what Jean La Harerre, he's a French expert in this area, said: The USGS estimate implies a fivefold increase in discovery rate and reserve addition, for which no evidence is presented. Such an improvement in performance is, in fact, utterly implausible, given the great technological achievements of the industry over the past 20 years, I mentioned those, computer modeling and 3-D seismic, the worldwide search and the deliberate effort to find the largest remaining prospects.

The next chart is another quote from the Corps of Engineers: Oil is the most important form of energy in the world today.

By the way, all four of these reports said the same thing in slightly different words, that peaking of oil is either present or imminent. By peaking, we mean we've reached the maximum of production to produce it. Try as hard as we will, it will not increase

after that, but just go down, down, down. It's being doing that in our country since 1970; that's in spite of the fact that we have drilled more oil wells in our country than all the rest of the world put together.

Putting a dozen straws in the soda will not result in more soda, will it? It's a limited amount. There is a limited amount.

Historically, no energy resource equals oil's intrinsic qualities of extractability, transportability, versatility, and cost. The qualities that enabled oil to take over from coal as the front line energy source for the industrialized world in the middle of the 20th century are as relevant today as they were then.

The next chart is from the first report that came out. This is the "Hirsch Report" that came out a few months earlier than the Corps of Engineers report. And they made some really startling statements there. World production to conventional oil will reach a maximum and decline thereafter. That maximum is called the peak. A number of competent forecasters project peaking within a decade.

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I have a chart in a few moments which will show you those and when they predicted it.

"Prediction of the peaking is extremely difficult." It is indeed. And you will only know that it's peaked historically looking back to see that, in fact, it peaked. And the production of oil, as I mentioned, has been constant for the last 30 months. As a matter of fact, conventional oil production has fallen off, but the total production is constant because we've been producing some unconventional oil. Heavy sour, sour oil is oil that has a lot of sulfur in it and you need to get rid of that. And the Alberta, Canada tar sands that we will talk about in a few moments.

"Oil peaking presents a unique challenge," they say. "The world has never faced a problem like this. There is no precedent in history to prepare us for what will happen. Without massive mitigation more than a decade before the fact, if oil has now peaked," which it looks like it has, they said, we should have started a decade ago, and if we didn't, there are going to be meaningful consequences is what they are saying.

The next chart is a really interesting statement by our Secretary of State, Condoleezza Rice: "We do have to do something about the energy problem." Thank you. We should have been doing something about it for the last 27 years. I say 27 years because by 1980, we knew absolutely that M. King Hubbert was right that the United States had peaked in 1970. It takes about that long to be really certain that peaking has occurred, but I think we knew it, absolutely knew it.

"We do have to do something about the energy problem. I can tell you that

nothing has really taken me aback more as Secretary of State than the way that the politics of energy is—I will use the word 'warping'—diplomacy around the world. We have simply got to do something about the warping now of diplomatic effort by the all-out rush for energy supply."

It was bad then. In April of last year, oil was nowhere near \$95 a barrel then.

The next quote is another quote from the Hirsch Report. This is a big report done by SAIC, Science Applications International Corporation, a very prestigious international engineering scientific organization. They say that the economic, social, and political costs will be unprecedented. "There is nothing in history to prepare us for the economic, social, and political cost of the peaking of oil." And that is not me saying that. This is a report from a major study done by a very reputable scientific engineering organization paid for by our government, by our Department of Energy. Have you heard the Department of Energy talking about this? You might ask them why not?

The next chart, this was 50 years ago: "I suggest that this is a good time to think soberly about our responsibilities to our descendants, those who will ring out the fossil fuel age. We might give a break to these youngsters by cutting fuel and metal consumption so as to provide a safer margin for the necessary adjustments which eventually must be made in a world without fossil fuels."

I think I noted earlier that when you talk to the Chinese about energy, they talk about post-oil. The age of oil is now about 150 years old. That's out of 8,000 years of recorded history. In another 150 years, we will be through the age of oil. There will, for all practical purposes, be no more gas, oil, or coal. What will our world look like? By the way, this is exhilarating for me. There is no exhilaration like the exhilaration of meeting and overcoming a big challenge, and this is a huge challenge. So this will be very invigorating.

The next chart is another one from the Corps of Engineers: "In general, all nonrenewable resources follow a natural supply curve. Production increases rapidly, slows, reaches a peak, and then declines." They are just validating what M. King Hubbert said more than 50 years ago.

"The major question for petroleum is not whether production will peak but when." Of course it will peak. It is inevitable.

You know, our descendants will look back on us and ask themselves how could they have done that. What we really should have done when we found this incredible wealth under the ground was to stop to ask ourselves what can we do with this to provide the most good for the most people for the longest time. That obviously is not what we did, with no more responsibility than the kid who found the cookie jar or the hog who found the feed room